

Abstract

There are provided;

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(i) a solid catalyst component obtained by contacting a  
5 trivalent titanium atom-containing solid catalyst component  
precursor (C) with a halogeno compound (A) of the 13 (IIIa) or 14 (IV  
a) group of elements in the periodic table of the elements and  
an electron donor (B), or a solid catalyst component obtained  
by contacting an intermediate product with a titanium-halogen  
10 bond-carrying compound (D), the intermediate product being  
obtained by contacting the solid catalyst component  
precursor (C) with a halogeno compound (A) of the 14 (IVa) group  
of elements in the periodic table of the elements and the  
electron donor (B), or a solid catalyst component comprising  
15 a magnesium atom, a titanium atom, a halogen atom and an electron  
donor and having a relative surface area of not more than 30  
m<sup>2</sup>/g, the catalyst component being superior in a particle form,

(ii) a catalyst comprising the solid catalyst component  
and an organoaluminum compound, the catalyst being high in  
20 polymerization activity, so that there is no need to remove  
a catalyst residue from a polymer obtained after the  
polymerization, and

(iii) a process for producing an olefin polymer using  
the catalyst, the polymer produced being superior in powder  
25 properties and low in a content of lower molecular weight  
components.